IN THE CLAIMS

Please amend the claims as follows:

Claims 1-9 (Canceled).

Claim 10 (Currently Amended): A fuel-cell ~~stack~~ stack, comprising:

at least two elementary cells disposed in facing relationship, for an exothermic combustion reaction constituting a heat source, the exothermic combustion reaction includes an oxidizer and a reactant, and the reactant and the oxidizer circulate within each elementary cell;

an internal duct formed between the cells for circulation of a cooling fluid constituting a cold sink; and

a plurality of thermoelectric modules, each comprising a pair of elements of two conductive materials of dissimilar nature, a first end of ~~each~~ the pair being in thermal contact with the heat source or the cold sink, a second end of ~~each of~~ the ~~elements of the~~ pair being in contact with the other heat source or cold sink, and being electrically connected to a neighboring thermoelectric module.

Claim 11 (Currently Amended): ~~A fuel-cell~~ The fuel-cell stack according to claim 10, wherein the ~~thermoelectric module is composed of a pair of conductive materials connected at one of their ends to a conductive connection in~~ first end of the pair is connected with a conductive thermal contact ~~with a~~ to a bipolar plate of the heat source, and ~~connected to one another at their free ends by a conductive connection in~~ the second end of the pair is in a thermal contact with the cold sink.

Claim 12 (Currently Amended): ~~A fuel-cell~~ The fuel-cell stack according to claim 10, wherein the two conductive materials of the thermoelectric modules are semiconductor materials, a first of P type and a second of N type.

Claim 13 (Currently Amended): ~~A fuel-cell~~ The fuel-cell stack according to claim 12, wherein the N-type materials are alloys of silicon and germanium doped with phosphorus and the P-type materials are alloys of silicon and germanium doped with boron.

Claim 14 (Currently Amended): ~~A fuel-cell~~ The fuel-cell stack according to claim 10, wherein the conductive connections connecting the ends of the materials are composed of molybdenum electrodes.

Claim 15 (Currently Amended): ~~A fuel-cell~~ The fuel-cell stack according to claim 10, wherein a last thermoelectric module of an assembly disposed along a first elementary cell is electrically connected in series or in parallel with a first thermoelectric module of an assembly disposed along a second elementary cell.

Claim 16 (Currently Amended): ~~A fuel-cell~~ The fuel-cell stack according to claim 10, wherein a plate forming a wall equipped with fins is disposed on ~~the~~ an external surface of the assembly of thermoelectric modules on a same side as the internal cooling duct.

Claim 17 (Currently Amended): A method for partial recuperation of thermal energy originating from a fuel-cell stack, comprising:

producing a first electrical energy and a heat energy from the fuel-cell stack;

circulating a cooling fluid in an interior ~~of which there circulates,~~ between two elementary cells of the fuel-cell stack ~~constituting the heat source, a cooling fluid constituting the cold sink, wherein the~~ to place the cooling fluid ~~is placed~~ in thermal contact with a first side of a plurality of thermoelectric ~~modules~~ modules attached to the fuel-cell stack;

heating a second side of the plurality of thermoelectric modules with the heat energy; and

generating a second ~~the~~ electrical energy ~~generated by~~ by a Seebeck effect ~~is recuperated~~.

Claim 18 (Currently Amended): The method ~~A method~~ according to claim 17, wherein cooling of the cell stack is two-phase.

Claim 19 (New): A fuel-cell stack, comprising:

a plurality of fuel-cells electrically connected and configured to produce a first electrical power and heat from a reaction between an oxidizer and a reductant reactant, the plurality of fuel-cells including a first fuel-cell and a second fuel-cell;

a first plate configured to transfer heat;

a second plate configured to transfer heat;

a first thermoelectric module layer configured to produce a second electrical power and the first thermoelectric module layer is disposed between and attached to the first plate and the first fuel-cell;

a second thermoelectric module layer configured to produce a third electrical power and the second thermoelectric module layer is disposed between and attached to the second plate and the second fuel-cell; and

an internal duct passageway configured to circulate cooling fluid and to bring the cooling fluid in contact with both the first plate and the second plate, and the internal duct passageway is disposed between the first plate and the second plate.

Claim 20 (New): The fuel-cell stack according to claim 19, wherein each of the plurality of fuel-cells comprises:

a cathode bipolar plate configured to be a cathode, the cathode bipolar plate having a first cathode surface and a second cathode surface, the second cathode surface having a first engraved duct to carry the oxidizer;

an anode bipolar plate configured to be an anode, the anode bipolar plate having a first anode surface and a second anode surface, the first anode surface having a second engraved duct to carry the reductant reactant; and

a porous membrane configured to allow electrically-charged ions to pass between the anode bipolar plate and the cathode bipolar plate, and the porous membrane is in contact with the second cathode surface and the first anode surface.

Claim 21 (New): The fuel-cell according to claim 20, wherein the first plate and the second plate each include a plurality of cooling fins extending into the internal duct passageway.

Claim 22 (New): The fuel-cell according to claim 21, wherein the first thermoelectric module layer comprises a pair of dissimilar conductive materials and each of the dissimilar materials include

a heat conductor end configured to be in a conductive thermal contact with the second anode surface and to conduct heat away from the second anode surface, and

a heat dispenser end configured to be connected to the first plate and to dispense heat to the first plate.

Claim 23 (New): The fuel-cell according to claim 22, wherein the pair of dissimilar conductive materials are made of two materials including

a P-type semiconductor material of silicon and germanium doped with boron, and

a N-type semiconductor material of silicon and germanium doped with phosphorus.

Claim 24 (New): The fuel-cell according to claim 23, wherein a plurality of molybdenum electrodes connect the ends of the pair of dissimilar materials.

Claim 25 (New): The fuel-cell according to claim 21, wherein the second thermoelectric module layer comprises a pair of dissimilar conductive materials and each of the dissimilar materials include

a heat conductor end configured to be in a conductive thermal contact with the first cathode surface and to conduct heat away from the first cathode surface, and

a heat dispenser end configured to be connected to the second plate and to dispense heat to the second plate.

Claim 26 (New): The fuel-cell according to claim 22, wherein the first electric power, the second electric power, and the third electric power are supplied to energize a motor vehicle.